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# NORTHEASTERN FOREST PEST REPORTER

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United States Department of Agriculture
Forest Service Region Seven

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AUG 9 1963
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6816 Market St., Upper Darby, Pa.

Pest Control Zone Offices
Amherst, Mass.
Harrisonburg, Va.

NUMBER 2 July 9, 1963

## FOREWORD

Keeping informed on the current status of our important forest pests and on methods for their control is a vital phase of the Region's Forest Pest Control program. This information is also essential to you folks in the field as an aid in carrying out your forest pest control activities. Therefore, it will continue to be the policy of this REPORTER to provide you with regionwide interpretation of forest pest conditions; recent developments in detection, evaluation and suppression; and other pertinent information. It is our hope that these efforts will merit your continuing interest and cooperation.

AGRICULTURE — MCELWEE, PHILA., PA.

## STATUS OF FOREST INSECTS

### SPRUCE BUDWORM (Choristoneura fumiferana)

Maine

A pilot control test using Bacillus thuringiensis a microbial insecticide, was carried out in northern Maine in June. Four different Bacillus formulations were applied by helicopter to a series of randomized blocks. Control results will be determined from pupal counts made in July.

Also during June the State of Maine successfully treated 470,000 acres of spruce budworm infested spruce-fir in northern Maine with DDT. This year's treatment varied from previous Maine budworm control projects in that the entire area (470,000 acres) was sprayed twice at the rate of one-half pound of DDT in one gallon of final spray mixture per acre for each spray application. The two applications were used because of the heavy red spruce stocking in the infested area.

Complicating both control programs this season was the rapid development of the spruce budworm larvae. As much as forty percent of the larvae was in the sixth instar in some of the field collections made June 13. Warm, dry weather has been the main factor responsible for this rapid larvae development.

### GYPSY MOTH (Porthetria dispar)

Maine

About 4000 acres are infested in four locations in York and Oxford Counties, however, no spraying was conducted this season.

New Hampshire

Infestations reported from scattered locations in the Connecticut River valley in western Cheshire County.

Vermont

The decline that started in 1962 on the Green Mountain National Forest, Middlebury Ranger District, and adjacent lands in Addison County seems to be continuing. Very little damage is anticipated.

Massachusetts — Between May 7 and May 25, 110,000 acres were sprayed in Hampden, Hampshire and Franklin Counties, using one-half pound of DDT per acre. Although gypsy moth was present in Berkshire County, no spraying was done. This spraying was for both gypsy moth and linden looper. In some sections, both insects were present, while in other areas only one or the other was present.

Connecticut — About 140,000 acres infested in the area west of the Connecticut River and concentrated in Middlesex, New Haven, Fairfield and Litchfield Counties.

PINE LOOPER (Lambdina athasaria pellucidaria)

Massachusetts — A pilot test is planned in the vicinity of Dennis and Truro, Cape Code, to determine the effectiveness of Bacillus thuringiensis, in controlling the pine looper under field conditions. Application will be made by helicopter.

LINDEN LOOPER (Erannis tiliaria)

Vermont — Scattered infestations on the Middlebury Ranger District of the Green Mountain National Forest in Addison County. Defoliation estimated at 5 percent - 10 percent of the understory in some areas. Up to 50 percent defoliation in understory anticipated in localized spots. No control needed or anticipated at this time.

Massachusetts — Western counties quite generally infested. Spraying in Hampden, Hampshire and Franklin was done to control both linden looper and gypsy moth.

A study of the linden looper in Amherst, Massachusetts area is being made by a graduate student in the Department of Entomology and Plant Pathology of the University of Massachusetts under the guidance of Dr. John H. Lilly, Department Head. The study to date shows up to 60 percent of the larvae parasitized. Only parasites of the order Diptera have been reared out, but parasitism by certain Hymenoptera is suspected. Carabid beetles were observed in abundance feeding on larvae in the early larval stage, but were less abundant in the later larval stages. Many diseased larvae

were found, but the causal organisms not yet identified. Dr. Lilly would be interested in receiving notes concerning feeding habits, parasites, predators and diseases of this important forest pest.

Connecticut — Generally intermixed with gypsy moth but with some areas principally linden looper and other areas mostly gypsy moth.

New York — Defoliation was observed in varying degrees of intensity from light to very heavy in southern Franklin County with the towns of Altamont, Harrietstown and southern Santa Clara being the most affected. Significant activity was also observed near Clifton in the Cranberry Lake Region. Reported light to heavy in Westchester, Putnam and Duchess Counties. Light on Long Island. The potential activity of this insect in these areas is being carefully watched.

A LOOPER (Phigalia titea)

Pennsylvania — Abundant on oak in Lackawanna County.

Virginia — Defoliated several hundred acres of oak on the George Washington National Forest this spring.

FOREST TENT CATERPILLAR (Malacosoma disstria)

New York — Reports from St. Lawrence County indicate a gradual but steady build up of this insect in localized areas.

West Virginia — Reported defoliating oak in Mercer County.

FALL CANKERWORM (Alsophila pometaria)
SPRING CANKERWORM (Paleacrita vernata)

Massachusetts — Heavy infestations in eastern Norfolk County. Some local spraying was done by local communities, using 3/4 pound of DDT per acre.

Connecticut — Reported from northern part of the State, with most reports coming from the Hartford area. Populations reported as decreasing along the coast.

Pennsylvania — Causing 25 to 50 percent defoliation on oak, hickory, elm, maple and beech in northern tier and southeastern counties. Infestations about as heavy as last year.

Maryland — Second year of heavy defoliation by the spring cankerworm reported in Bachman's Valley.

Virginia — For the past several years the fall cankerworm has defoliated approximately 1000 acres on the Glenwood Ranger District, Jefferson National Forest, in the vicinity of Onion Mountain. Control measures were initiated this year to prevent further injury to the trees and to keep the area attractive to tourists, since this area is traversed by the Blue Ridge Parkway. In late May approximately 930 acres of oak-hickory forest were sprayed with a helicopter using DDT at the rate of one pound of DDT in one gallon of final spray mixture per acre. Based on pre-spray and post-spray sample data, about 98 percent of the cankerworm larvae within the treated area was killed.

VIRGINIA PINE SAWFLY (Neodiprion pratti pratti)

Virginia — Defoliation lighter than past years on shortleaf and loblolly pines in Brunswick, Charlotte and Dinwiddie Counties.

Kentucky — Feeding causing light to moderate defoliation on Virginia and shortleaf pines in the eastern counties. Defoliation lighter than last year.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana)

Pennsylvania — Low winter temperatures responsible for death of many overwintering larvae in red pine buds in Warren County. Insect population increasing in jack pine underplanting in Northampton County.

WHITE PINE WEEVIL (Pissodes strobi)

Pennsylvania — White pine weevil control work completed on a total of 250 acres at Cook Forest, Clear Creek, Parker Dam and Black Moshannon Park.

SOUTHERN PINE BEETLE (Dendroctonus frontalis)

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| Virginia | Expected epidemic has not materialized. Low winter temperatures apparently caused decline. |

PALES WEEVIL (Hylobius pales)

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| Pennsylvania | Extensive flagging noted on young white pine following cutting operation in Clarion County. Also causing 10 percent mortality in a 15-acre Douglas-fir planting in Northampton County. |
| Maryland | Injury appears to be increasing on cut-over woodlands that have been planted within two years after cutting in Somerset, Wicomico and Worcester Counties and on the Pocomoke State Forest. |
| Virginia | Damage occurring on loblolly pine seedlings in a two-acre planting in Nottoway County. |

BALSAM WOOLLY APHID (Chermes piceae)

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| Maine<br>New Hampshire<br>Vermont | Plans were made during the winter for release of the imported predaceous beetle Laricobius erichsonii in several locations on National Forest land in New Hampshire and Vermont, and on private lands in Maine and Vermont. Although 8000 beetles were ordered, unfavorable weather conditions in Europe, where the beetles are collected, made it impossible to fill this order. Approximately 1100 beetles were released in a heavy balsam woolly aphid infestation on the Green Mountain National Forest in Vermont and approximately 700 on infested private lands in Maine. |

RED PINE SCALE (Matsucoccus resinosae)

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| Connecticut | No increase in scale populations noted in older infestations. A survey for this pest planned for this coming fall. |

PINE SPITTLEBUG (Aphrophora parallela)

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| Virginia | Light infestations without apparent damage are occurring on Scotch pine in Fauquier County and on loblolly pine in Gloucester and Mathews Counties. In Highland County there is an abundance of spittle masses on white pine. |

West Virginia — Spittle masses very abundant and conspicuous throughout the southern counties on white, Virginia and Scotch pines.

## MISCELLANEOUS INSECTS

### YELLOW-HEADED SPRUCE SAWFLY (Pikonema alaskensis)

New York — Larval hatch reported to have begun in white spruce plantations in St. Lawrence County.

### EASTERN TENT CATERPILLAR (Malacosoma americanum)

New York — A general increase of this insect has been noted throughout the western half of the State. In specific locations in St. Lawrence County, complete defoliation of the understory brush has been reported. A wilt disease has been found in dead larvae collected in Jefferson County.

Pennsylvania — Infestations were light again this year. Increases appeared in some locations.

Virginia — Heavy infestations throughout the State. Occasional wild cherry completely defoliated. Extensive larval mortality, apparently due to polyhedryal virus, reported from the vicinity of Blacksburg.

Kentucky — Many webs noted in blue grass region and throughout eastern counties.

### EUROPEAN PINE SAWFLY (Neodiprion sertifer)

New York — Moderate to light in Scotch pine plantation in Herkimer County.

Pennsylvania — Populations generally light throughout the State. Some defoliation occurring on red and Scotch pines in Mercer and Monroe Counties.

### BIRCH CASEBEARER (Coleophora salmani)

Maine — Moderate infestation over northeastern Maine.

ARBORVITAE LEAF MINER (Argyresthia thuiella)

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| Maine | The infestation which has been causing some concern in central Maine is declining. |

BROWN-TAIL MOTH (Nygmia phaeorrhoea)

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| Massachusetts | Moderate to heavy infestation on beach plum at Dennis, Provincetown and Truro on Cape Cod. |

BIRCH LEAF MINER (Fenusa pusilla)

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| Maine<br>New Hampshire<br>Massachusetts | Reported heavy in southern Maine and southern New Hampshire and extending into Massachusetts. |

PINE LEAF APHID (Pineus pinifoliae)

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| Maine | Heavy infestation on white pine expected in 1963. |

OAK LEAF ROLLERS (Mainly Croesia (Argyrotoxa) semipurpurana)

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| Pennsylvania | Occurring in heavy concentrations on red and scarlet oak in Lycoming, Cumberland and Adams Counties. |
| Virginia | Considerable leaf rolling present in Montgomery County on red and white oaks. |

PIT MAKING OAK SCALE (Asterolecanium minus)

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| Pennsylvania | Increasing numbers of dead and dying tops of white and chestnut oaks in Mifflin and Union Counties indicate a build up of this scale. |

WHITE PINE APHID (Cinara strobi)

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| Virginia | Common on white pine in Albemarle, Augusta, Highland and Patrick Counties. Also present in many southwestern counties. |

## STATUS OF FOREST DISEASES

## HARDWOODS: DECLINES AND DIEBACKS

### ASH DIEBACK (cause unknown)

New England
New Jersey
Pennsylvania

Ash dieback has now been noted as far north and east as northern Maine, and south and west to western Pennsylvania. An ash dieback survey throughout New Hampshire, Vermont, Massachusetts, Connecticut, New Jersey and Pennsylvania is now under way. This survey is intended to measure the extent and intensity of the disease. Survey crews will also take observations on dieback affecting other hardwoods and measure certain environmental factors for data on their possible relationship to this condition.

New York

Dieback increasing in Tompkins, Cayuga, Tioga and Cortland Counties, New York.

### CHERRY GUMMOSIS (cause unknown)

Pennsylvania

A new problem has been encountered on black cherry in western Pennsylvania. This has been termed cherry gummosis and was first reported in the August edition of the Northeastern Forest Pest Reporter. Pathologists and entomologists have so far been unable to determine its cause. Problem areas will be carefully watched during the coming growing season. If symptoms reappear, further attempts will be made to identify the causal agent. A description of the symptoms expressed by the disease was given in the 1962 August Reporter. We shall particularly appreciate your prompt reporting of symptomatic trees during the coming season.

### MAPLE DECLINE (cause unknown)

New York

A continued decline of maple in Lewis and Jefferson counties is again evident this season.

### OAK DECLINE

Southern Zone

Reports of dead and dying oak have been received from a variety of areas within the Zone. The widespread drought of last year; the unusually cold winter and this spring's drought may further reduce tree vigor. In many areas of Pennsylvania; for example, last year's radial growth was approximately 1/2 that of the previous year. Watch for decline symptoms in oak as well as in other tree species.

## HARDWOODS: CANKERS

### BEECH SCALE-NECTRIA COMPLEX (Nectria coccinea)

Vermont — Appears to be increasing on the Middlebury Ranger District of Green Mountain National Forest. Nectria also increasing but still negligible.

## HARDWOODS: WILTS

### OAK WILT (Ceratocystis fagacearum)

West Virginia — The oak wilt program is well under way in West Virginia. The total number of trees processed to date (June 14) is 90.

Oak wilt detection and control programs will also be conducted in Pennsylvania, Maryland, Virginia and Kentucky. Notes on the progress of these programs have not yet been received.

### DUTCH ELM DISEASE (Ceratocystis ulmi)

Virginia — A report of an infected tree has been received from Brunswick County.

## HARDWOODS: MISCELLANEOUS

### ANTHRACNOSE

Massachusetts — Anthracnose caused by Gnomonia veneta has been noted on sugar maple in central Massachusetts this spring.

Pennsylvania
Virginia — A few reports of this foliage disease on sycamore, maple, ash and oak have been received. The unusually dry spring undoubtedly inhibited disease development.

### LATE SPRING FROST

New York — Frost damage on ash and oak from Cortland County through Alleghany was moderate to heavy. In the Saratoga County section and the Catskill Mountain area frost damage was severe on oaks, ash and hickory. It appears that the first leaves will be a total loss.

Southern Zone — Frost damage was widespread in the Zone. Oak, sycamore, maple, ash and beech were particularly affected. Trees appear to be refoliating normally.

## CONIFERS: ROOT DISEASES

### ANNOSUS ROOT ROT (Fomes annosus)

Connecticut — New growth of old and new conks somewhat slower and later than usual. Moderate mortality of annual conks last winter.

Virginia — Several infection centers were located in a young loblolly pine plantation thinned six years ago in Surry County. Root rot is responsible for killing approximately five trees in the New Kent seed orchard (5-year old root stock). The seed orchard was established on a site previously occupied by native pine. Pine stumps in recent clearings have been treated with 45 percent urea (2 lbs./gallon water) to prevent annosus invasion.

This fungus has also been reported as the most common cause of eastern redcedar mortality in the Piedmont and coastal areas of the State.

West Virginia — Considerable damage has been observed in two more natural white pine stands located in Pleasants and Raleigh Counties.

### ARMILLARIA MELLEA

New Hampshire — Many recently dead roadside sugar maples, some ash and other species were noted with a very abundant growth of rhizomorphs between bark and wood surface. Believed to be secondary invasion but possible A. mellea aided in triggering the death of these trees.

### LITTLELEAF (complex - Phytophthora cinnamomi)

Virginia — Littleleaf disease of shortleaf pine appears to be increasing on the Piedmont. Stands in Goochland, Louisa, Fluvanna and Prince Edward Counties in which little or no disease was evident until last year, now feature pronounced symptoms.

## CONIFERS: STEM RUSTS

### WHITE PINE BLISTER RUST (Cronartium ribicola)

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| New England<br>New York | Fruiting of cankers (aeciospores) on white pine was moderate to heavy throughout New England and New York. |
| Pennsylvania | Infections (1961) were found on single seedlings at two locations in Forest County. Ribes eradication via herbicide, was conducted on these areas in 1961. |
| Maryland | Report received of considerable infection in Garrett County plantations where no ribes eradication had been conducted. |
| Virginia | Uredia have not yet been observed on ribes. |
| West Virginia | Approximately 100 infected trees were found in a localized area near Daniels, West Virginia. |

### EASTERN GALL RUST

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| Virginia | Two reports of Cronartium cerebrum killing young loblolly pine were received. This fungus is quite common. Economic loss, when present, usually is in the form of reduced tree merchantability; especially when the gall-like swellings occur on the main stem. |

## CONIFERS: FOLIAGE DISEASES

### WHITE PINE NEEDLE BLIGHT (cause unknown)

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| New Hampshire | Spread from the area of southeastern Merrimack County is reported. Considerable mortality of white pine seriously blighted in 1962 is reported. Trees still alive have shown no indication of recovery to date. |

### NEEDLE RUST

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| Pennsylvania<br>Delaware<br>Maryland<br>Virginia | Reports of needle rust of loblolly pine were received from the following counties in Virginia: Caroline, Richmond, Amelia, Northampton, Henry; in Maryland: Worchester County; in Delaware: New Castle County. A needle rust of red pine was reported as prevalent in Northwestern Pennsylvania. |

## CONIFERS: MISCELLANEOUS

### STORM DAMAGE

New York — Snow and ice damage severe in white, red and Scotch pine plantations in the Tug Hill section. Limbs of white and red pine were pulled completely out of the trunks. Ice damage was heavy on red pine plantations in Allegany County.

### WINTER DRYING

Virginia — Extensive winter kill of loblolly pine (seedling--pole size) was noted this spring throughout the Piedmont.

### DROUGHT

Maryland — Due to the unusually severe drought in April, newly established plantations were held back. It has been estimated that 50 percent mortality may be expected in Norway spruce. The other species appear to be doing better.

## FOREST PEST CONTROL NOTES

Morison Resigns — Mr. David Morison, Regional Pathologist has resigned from FPC to accept a position with the Newberry County Development Commission, Newberry, South Carolina.

Training Courses — A training school was conducted by A. C. Tegethoff, Northern FPC Zone Pathologist,in May for State of Vermont County and Management Foresters. The application of TSI practices to northern hardwoods as a disease preventative technique was the main theme of this training program.

State Foresters of New Jersey were familiarized with the forest insect detection system proposed by the Forest Service during a training session at Washington Crossing, New Jersey in May. Mr. Wilfred L. Freeman, Southern FPC Zone Entomologist,was in charge of this two day session. One day was devoted to an informal discussion of the various insect problems likely to be encountered in the New Jersey forests. Field trips demonstrating plot layout and sampling techniques occupied the second day.

Project Proposals

The Forest Pest Control program requires a biological evaluation of the forest insect problem to determine if control is entomologically justified. This evaluation must be made prior to the submission of a project proposal. Federal and State agencies having forest insect problems that may require suppression action during F. Y. 1964 should contact Forest Pest Control Zone offices in Amherst, Massachusetts, or Harrisonburg, Virginia. Forest Service entomologists stationed at these zone offices will furnish the necessary guidance for evaluating your pest problem and aid in the preparation of the project proposal forms, should a cooperative control project be deemed necessary. Special care should be exercised in completing these forms so as to include all the information required. Early submission of these project proposals is recommended.

General

Forest insect and disease problems were markedly influenced by the unusually severe climatic conditions this past winter in the Southern part of Region Seven.